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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/652,345	08/29/2003	Jhaozhong Jiang	MDM-0305	1295
27810	7590	08/23/2005	EXAMINER	
EXXONMOBIL RESEARCH AND ENGINEERING COMPANY P.O. BOX 900 1545 ROUTE 22 EAST ANNANDALE, NJ 08801-0900			NGUYEN, TAM M	
			ART UNIT	PAPER NUMBER
			1764	

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/652,345

Applicant(s)

JIANG, JHAOZHONG

Examiner

Tam M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2, 4, 6 and 9-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2, 4, 6 and 9-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2, 4, 6 and 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xiao et al. (6,264,826) in view of Carroll et al. (6,569,312) and Chester et al. (4,810,357).

Xiao discloses a dewaxing process by contacting a hydrocarbon feedstock with a molecular sieve catalyst comprising platinum having a pore size of 5.3 to about 6.5 angstroms (.53 -.65 nm). The dewaxing process is operated without adding hydrogen to the process. The dewaxed hydrocarbon is then hydrotreated (hydrofinishing) to produce lubricant oil. It is noted the Xiao does not disclose the hydrogen partial pressure of less than 100 or 70 psig. However, the process of Xiao does not involve a step of adding hydrogen to the dewaxing process. Therefore, it would be expected that the Xiao process would have a hydrogen partial process of

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less than 70 psig as claimed. Consequence, the catalyst would have the TRI as claimed. (See abstract; col. 9, lines 4-6, 46-61, col. 12, lines 7-10)

Xiao does not specifically disclose that the catalyst has a one-dimensional pore structure, does not disclose that the molecular sieve is ZSM-48, does not disclose a step of regenerating the dewaxing catalyst, and does not disclose that the feedstock contains greater than 80 wt.% of n-paraffins.

Carroll discloses a dewaxing process wherein a ZSM-48 catalyst having one dimensional structure is used. (See col. 5, lines 16-25; col. 14, lines 36-58)

Chester discloses a process for regenerating a dewaxing catalyst. (See col. 4, lines 27-39).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Xiao by using the catalyst of Carroll because ZSM-48 has equivalent function as ZSM-23 in a dewaxing process.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Xiao/Carroll by using two dewaxing zones, one of which is used for dewaxing while the other is regenerated and then vice versa, as taught by Chester because one would have been motivated to make such a modification so that the process can run continuously, even while regenerating the catalyst. Consequently, since the modified process of Xiao is essentially the same as the claimed process, it would be expected that the Xiao feedstock would have decreased in pour point, or cloud point and preserved the viscosity of a paraffin containing stock as claimed.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Xiao by using the claimed feedstock

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because Xiao teaches that any hydrocarbon feed having greater than 50 wt.% of wax (paraffins) can be used in the process. Therefore, one of skill in the art would use any feedstock included in the claimed feedstock.

Response to Arguments

The argument that the feedstock of Xiao would contain hydrogen because Xiao teaches that the addition of hydrogen to the dewaxing step is omitted when the entire effluent from the hydrotreating step is dewaxed is not persuasive. It appears that the dewaxing step of Xiao does not require a large amount of hydrogen. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Xiao by utilizing a feedstock comprising a small amount of hydrogen so that the hydrogen pressure in the dewaxing step is less than about 100 psi or less than about 70 psi because it would be expected that any small amount of hydrogen would work including the amount that results in a pressure of less than about 100 psi.

The argument that Carroll does not teach a cyclic dewaxing-catalyst regeneration process in which dewaxing is conducted in the absence of added hydrogen is not persuasive. The examiner relied upon Carroll to teach that the claimed catalyst (ZSM-48) is known to be effective in a dewaxing process and the examiner relied upon Chester to teach the regeneration step.

The argument that if one were to use the ZSM-48 catalyst of Carroll in the processes of Xiao and Chester, one would do so with added hydrogen is not persuasive. Xiao teaches the use of ZSM-23 as a dewaxing catalyst with or without added hydrogen whereas Carroll teaches that either ZSM-23 or ZSM-48 can be used in the dewaxing step. Therefore, when using ZSM-48 in

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the modified process of Xiao, one of skill in the art would operate the process with or without added hydrogen.

The argument that Chester does not disclose or suggest conducting a cyclic dewaxing catalyst regeneration process using a single source feed is not persuasive. The examiner relied upon Chester that a step of regenerating a dewaxing catalyst as claimed is known in the art. The regeneration step does not rely upon types of feedstock.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tam M. Nguyen whose telephone number is (571) 272-1452.

The examiner can normally be reached on Monday through Thursday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tam M. Nguyen
Examiner
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TN

 8/20/05